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工程硕士研究生 英语综合教程

上

An English
Course for Master
Students in
Engineering

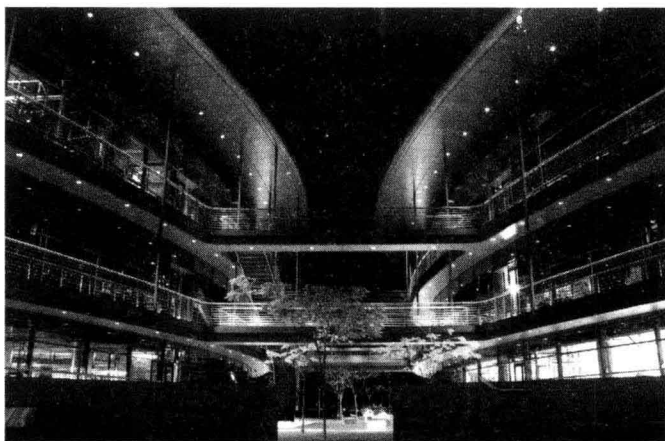


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前 言

自 1997 年全国首次招收工程硕士以来,经过十多年的发展,工程硕士的招生规模扩大,培养目标愈加明确,教学要求逐步提高,已成为有实践经验的工程师们提升学历、更新知识的重要途径之一。

在工程硕士的培养过程中,英语始终是一门重要课程。随着全球一体化的进程以及各个领域国际化交流的深入,英语学习的重要性越发突出。社会的需求、行业的要求、学员的英语基础以及学习要求,都在随之提高。因此,作为教学之本的教材,需要适应新形势、符合新要求。

2006 年,南京大学出版社组织江苏省几所重点大学的教师编写了《新编工程硕士研究生英语教程》,教材出版后被多所高校选用,受到了广泛好评。时光荏苒,在这几年的教学实践和反馈中,编者广泛征求意见,进一步搜集素材,一直酝酿着对教材进行修订、改版。2012 年,苏、皖两省五所重点大学研究生英语教学第一线的教师联合编写了《工程硕士研究生英语综合教程(上、下册)》,参与学校包括:东南大学、合肥工业大学、江苏大学、南京邮电大学、南京航空航天大学。历经一年多的讨论切磋、选材、编写、修改、统稿及编辑,终于顺利付梓。本套教材除保留 2006 年版本的小部分课文外,对课文、练习和专项讲解做了大幅度的修改和增减。在筹划之初,编委会成员就一致认为,工程硕士研究生教材应做到:内容配置具有前瞻性,文章语篇长度得当,练习难度和形式合理。在编写过程中,我们结合多年的教学实践经验,力求教材的实用、新颖,既强调选材的宽度,又考虑工程类的特色。在练习设计上,注重语言能力的训练和思维能力的启发,保证练习的多样性和全面性。本套教材作为工程硕士研究生教育核心教材,兼顾大多数工程硕士英语学习的特点和现状,为工程硕士研究生英语教学提供了新思路。

《工程硕士研究生英语综合教程》分为上、下两册,每册各十个单元。每单元由课文 A、课文 B 以及翻译或写作专项三个部分组成。所选文章均为英美作者的原文,为方便课堂教学以及学员的学习,A、B 两篇课文均配以导语、注解、词汇表等内容。在学习重点上,A 篇为精讲精练,B 篇则注重泛读理解。上册每单元的第三部分为翻译技能系列内容,包括专项翻译技能讲解和翻译练习。下册每单元的第三部分为实用写作系列内容,包括专项写作技能讲解和写作练习。每单元具体内容如下部分构成:课文 A 的正文、导语、注解、词汇表、阅读理解类练习、语言训练类练习;课文 B 的正文、导语、注解、词汇表、阅读理解类练习;翻译/写作专项包括技能讲解和练习。

我们为本套教材配套编写了一本《学习指导》,方便师生们查阅与教材中课文相关的文化背景知识、专业术语,并提供了课文的中文译文和练习题的参考答案,力求译文流畅,答案准确、详尽,为任课教师和学生提供完整而实用的教学参考材料。

希望本套教材的出版,能够有效促进工程硕士的英语教学,帮助学员真正提高英语学习的兴趣和水平。为本套教程的顺利出版,南京大学出版社的杨金荣和董颖老师做了大量的协调工作,在此我们深表感谢。

·由于编者水平有限,时间紧迫,书中疏漏与错误在所难免,衷心期待广大读者批评指正。

编者

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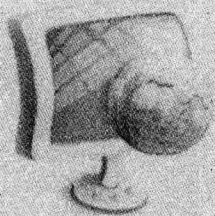
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Unit One

Text A Universities and Their Functions

Text B A Different Future for Higher Education?

专题一 翻译概述

**Text A*****Universities and Their Functions¹***

Alfred North Whitehead²

What are universities and their functions? Are they simply places of imparting knowledge to students or offering opportunities to faculty members for research? How important is the role of imagination in university education in the preparation for an intellectual career? Read on to find Whitehead's philosophical thinking considering these and other questions.

- 1** The universities are schools of education, and schools of research. But the primary reason for their existence is not to be found either in the mere knowledge conveyed to the students or in the mere opportunities for research afforded to the members of the faculty.
- 2** The justification for a university is that it preserves the connection between knowledge and the zest of life, by uniting the young and the old in the imaginative consideration of learning. The university imparts information, but it imparts it imaginatively. At least, this is the function which it should perform for society. A university which fails in this respect has no reason for existence. This atmosphere of excitement, arising from imaginative consideration, transforms knowledge. A fact is no longer a bare fact; it is invested with all its possibilities. It is no longer a burden on the memory; it is energizing as the poet of our dreams, and as the architect of our purposes.
- 3** Imagination is not to be divorced from the facts; it is a way of illuminating the facts. It works by eliciting the general principles which apply to the facts, as they exist, and then by an intellectual survey of alternative possibilities which are consistent with those principles. It enables men to construct an intellectual vision of a new world, and it preserves the zest of life by the suggestion of satisfying purposes.
- 4** Youth is imaginative, and if the imagination be strengthened by discipline this energy of imagination can in great measure be preserved through life. The tragedy of the world is that those who are imaginative have but slight experience, and those who are experienced have feeble imaginations. Fools act on imagination without knowledge; pedants act on knowledge without imagination. The task of a university is to weld together imagination and experience.
- 5** These reflections upon the general functions of a university can be at once translated in terms of the particular functions of a business school. We need not flinch from the assertion that the main function of such a school is to produce men with a greater zest for business. It is a libel upon human nature to conceive that zest for life is the product of pedestrian purposes





directed toward the narrow routine of material comforts. Mankind by its pioneering instinct, and in a hundred other ways, proclaims the falsehood of that lie.

6 In the modern complex social organism, the adventure of life cannot be disjoined from intellectual adventure. Amid simpler circumstances, the pioneer can follow the urge of his instinct, directed toward the scene of his vision from the mountain top. But in the complex organisations of modern business the intellectual adventure of analysis, and of imaginative reconstruction, must precede any successful reorganisation.

7 In a simpler world, business relations were simpler, being based on the immediate contact of man with man and on immediate confrontation with all relevant material circumstances. Today business organisation requires an imaginative grasp of the psychologies of populations engaged in differing modes of occupation; of populations scattered through cities, through mountains, through plains; of populations on the ocean, and of populations in mines, and of populations in forests. It requires an imaginative grasp of conditions in the tropics, and of conditions in temperate zones. It requires an imaginative grasp of the interlocking interests of great organisations, and of the reactions of the whole complex to any change in one of its elements. It requires an imaginative understanding of laws of political economy, not merely in the abstract, but also with the power to construe them in terms of the particular circumstances of a concrete business. It requires some knowledge of the habits of government, and of the variations of those habits under diverse conditions. It requires an imaginative vision of the binding forces of any human organisation, a sympathetic vision of the limits of human nature and of the conditions which evoke loyalty of service. It requires some knowledge of the laws of health, and of the laws of fatigue, and of the conditions for sustained reliability. It requires an imaginative understanding of the social effects of the conditions of factories. It requires a sufficient conception of the role of applied science in modern society. It requires that discipline of character which can say "yes" and "no" to other men, not by reason of blind obstinacy, but with firmness derived from a conscious evaluation of relevant alternatives.

8 The universities have trained the intellectual pioneers of our civilisation—the priests, the lawyers, the statesmen, the doctors, the men of science, and the men of letters. The conduct of business now requires intellectual imagination of the same type as that which in former times has mainly passed into those other occupations; and the universities are the organisations which have supplied this type of mentality for the service of the progress of the European races.

9 In early mediaeval history the origin of universities was obscure and almost unnoticed. They were a gradual and natural growth. But their existence is the reason for the sustained, rapid progressiveness of European life in so many fields of activity. By their agency the adventure of action met the adventure of thought.

10 There is one great difficulty which hampers all the higher types of human endeavour. In modern times this difficulty has even increased in its possibilities for evil. In any large



organisation the younger men, who are novices, must be set to jobs which consist in carrying out fixed duties in obedience to orders. No president of a large corporation meets his youngest employee at his office door with the offer of the most responsible job which the work of that corporation includes. The young men are set to work at a fixed routine, and only occasionally even see the president as he passes in and out of the building. Such work is a great discipline. It imparts knowledge, and it produces reliability of character; also it is the only work for which the young men, in that novice stage, are fit, and it is the work for which they are hired. There can be no criticism of the custom, but there may be an unfortunate effect—prolonged routine work dulls the imagination.

11 The way in which a university should function in the preparation for an intellectual career, such as modern business or one of the older professions, is by promoting the imaginative consideration of the various general principles underlying that career. Its students thus pass into their period of technical apprenticeship with their imaginations already practised in connecting details with general principles. The routine then receives its meaning, and also illuminates the principles which give it that meaning. Hence, instead of a drudgery issuing in a blind rule of thumb, the properly trained man has some hope of obtaining an imagination disciplined by detailed facts and by necessary habits.

12 Thus the proper function of a university is the imaginative acquisition of knowledge. Apart from this importance of the imagination, there is no reason why business men, and other professional men, should not pick up their facts bit by bit as they want them for particular occasions. A university is imaginative or it is nothing—at least nothing useful. (1,200 words)

Notes

1. This is a speech first addressed to the American Association of the Collegiate Schools of Business in 1927. The text selected here is adapted from *The Aims of Education and Other Essays*, New York: Free Press, 1967.
2. Alfred North Whitehead (1861 - 1947): British mathematician, logician and philosopher best known for his work in mathematical logic and the philosophy of science (In collaboration with Bertrand Russell, he authored the landmark three-volume *Principia Mathematica* and contributed significantly to twentieth-century logic and metaphysics.)

New Words and Expressions

justification	/ˌdʒʌstɪfɪˈkeɪʃn/ n.	acceptable reason (for doing sth.) 正当理由
zest	/zest/ n.	great enjoyment or excitement 极大的快乐或兴奋; 热情; 兴趣
imaginative	/ɪˈmædʒənətɪv/ adj.	having or showing imagination 富于想象力的





impart	/ɪm'pɑ:t/ <i>v.</i>	give (qualities, knowledge, etc.) 传授; 赋予; 告知
energize	/'enədʒaɪz/ <i>v.</i>	give energy to 给予精力、能量
illuminate	/'ɪlu:mɪneɪt/ <i>v.</i>	1. make sth. clear; help to explain 阐明; 解释清楚; 启发 2. provide sth. with light 照明; 照亮; 照射
elicit	/'ɪlɪsɪt/ <i>v.</i>	get or draw out, cause to come out (facts, information, etc.) 引出; 诱出; 探出
feeble	/'fi:bl/ <i>adj.</i>	weak; faint 衰弱的; 虚弱的; 微弱的
pedant	/'pednt/ <i>n.</i>	a person who attaches too much importance to detail or rules, esp. when learning or teaching 学究; 书呆子
flinch	/flɪntʃ/ <i>v.</i>	avoid thinking about or doing sth. unpleasant 不想或不做某种不愉快的事
assertion	/ə'seɪʃn/ <i>n.</i>	strong statement claiming the truth of sth. 强硬陈词; 断言
libel	/'laɪbl/ <i>n.</i>	an unfair or untrue remark about or description of 作不公平或不真实评价; 诽谤; 中伤
conceive	/kən'si:v/ <i>v.</i>	think of; imagine; consider 构思; 想象; 设想
pedestrian	/'pɪ'destrɪən/ <i>adj.</i>	dull; lacking imagination or inspiration 平淡的; 缺乏想象或灵感的
falsehood	/'fɔ:lshud/ <i>n.</i>	untrue statement; lie 不实之词; 谎言
disjoin	/dɪs'dʒɔɪn/ <i>v.</i>	separate or become separated (使) 分离
precede	/'pri:sɪ:d/ <i>v.</i>	come or go before sth. in time, order, rank, etc. 在……之前; 先于
temperate	/'tempərɪt/ <i>adj.</i>	(of climate or climatic regions) having a mild temperature without extremes of heat or cold (指气候或某种地区的气候) 温和的
interlocking	/'ɪntə'lɒkɪŋ/ <i>adj.</i>	firmly joined together, esp. by one fitting into another 交织的; 连锁的
complex	/'kɒmpleks/ <i>n.</i>	group of connected or similar things 相连或相似的综合物
construe	/kən'stru:/ <i>v.</i>	explain the meaning of (words, sentences, actions, etc.); interpret sth. 解释 (词语, 句子, 行为等) 意义; 理解
binding	/'baɪndɪŋ/ <i>adj.</i>	that must be obeyed 应遵守的
evoke	/'ɪvəuk/ <i>v.</i>	produce or cause (a response, reaction, etc.) 产生或引起
conception	/kən'sepʃən/ <i>n.</i>	a general understanding; idea 概念; 观念; 理解
obstinacy	/'ɒbstɪnəsi/ <i>n.</i>	being obstinate; stubbornness 固执; 倔强; 顽固



statesman	/ˈsteɪtsmən/ n	a political or government leader, esp. one who is wise and fair minded 政治家(尤指贤明公正的)
mentality	/ˌmenˈtæləti/ n.	character; habits of thought 个性; 思想习惯
mediaeval	/ˌmediˈi:vəl/ adj.	(= medieval) of the Middle Ages, about A. D. 1100—1400 中古的; 中世纪的(约公元 1100—1400 年)
obscure	/əbˈskjʊə/ adj.	not clear; hard to understand 不清楚的; 难解的
hamper	/ˈhæmpə/ v.	prevent the free movement or activity of sb. ; hinder sb. /sth. 束缚某人; 妨碍某人/某物
endeavor	/ɪnˈdevə/ n.	attempt or effort 努力; 尽力
novice	/ˈnɒvɪs/ n.	a person who is new and inexperienced in a job, situation, etc. ; beginner 新手; 生手; 初学者
obedience	/əˈbi:diəns/ n.	action of obeying; being obedient 服从; 顺从; 听话
prolong	/prəˈlɒŋ/ v.	make sth. longer, esp. in time; extend 延长; 使延伸
prolonged	adj.	continuing for a long time 持续很久的; 长时间的
underlie	/ˌʌndəˈlaɪ/ v.	1. lie or exist beneath sth. 位于或存在于(某物)之下 2. form the basis of (sb. 's actions, a theory, etc.); account for 构成(某人行动、某一理论等)的基础; 作(某事物)的说明或解释
apprenticeship	/əˈprentɪsɪp/ n.	(time of) being an apprentice 学徒身份(期限)
drudgery	/ˈdrʌdʒəri/ n.	hard, boring work 繁重、乏味的工作
invest with		cause sb. /sth. to have a quality 赋予某人/某物某种性质
in great measure		to a great extent 在很大程度上
in terms of		as regards; expressed as 在……方面; 以……来表达
by reason of		because of 因为; 由于
rule of thumb		quick and not exact way of doing sth. , learnt by practical experience 快速而粗略的做法; 根据经验的做法

Content Awareness

I. Choose the best answer for each of the questions.

1. What is the primary reason for the existence of universities?
 - A. The universities impart knowledge to students and offer research opportunities for teachers.
 - B. The universities train students to get ready for their future careers.
 - C. The universities combines knowledge with the zest of life and imparts information imagi-



- natively.
- D. The universities preserve the connection between reality and imagination, and serve the development of society.
2. Which of the following can be called a tragedy of the world, according to the text?
- A. An adult has fewer imaginations although he is much experienced in his life and work.
B. A young man seeks more experience in order to be competitive in the job market.
C. A business school aims at producing men with a great zest for business.
D. A university functions for the development of society and transforms knowledge with imaginative consideration.
3. Why is the adventure of life closely interrelated with intellectual adventure?
- A. Because one must follow his instinct to pursue his adventure of life.
B. Because in modern society, only with intellectual adventure of analysis can one achieve a better result in his adventure of life.
C. Because those who are keen on the adventure of life can take intellectual adventure successfully.
D. Because it's human nature to unite the adventure of life and intellectual adventure to seek success.
4. Which of the following is NOT a feature of modern business organization?
- A. It needs to have a good understanding of the economic and political environment.
B. It needs to know more about the human nature and the psychologies of different populations.
C. It needs to recognize sufficiently the importance of science and technology to modern society.
D. It needs to establish good relation with the government and different populations.
5. What does the author say about the progress of European races?
- A. Throughout the early mediaeval history, the progress of Europe was gradual and natural.
B. European people are of great spirit of adventure.
C. The training of intellectual pioneers plays a decisive role in the rapid progress of Europe.
D. Universities play an important part in the progress of European life in many fields.
6. Which of the following hampers human endeavor in modern society?
- A. Continuing routine work lead to fewer imaginations.
B. Young men have fewer opportunities to meet the president of corporations.
C. Young employees are too creative to work at a fixed routine.
D. Little experience makes it difficult for the young to find decent jobs.
7. What will happen if students are well-prepared for an intellectual career after proper training in universities?
- A. They will be able to take jobs with greater duties and principles.
B. The can deal with their technical apprenticeship in greater obedience to orders.





- C. They can gain much knowledge and experience, and foster reliability of character.
- D. They will connect details and general principles imaginatively and obtain a better understanding of routines.
8. What can we learn from the text?
- A. The functions of universities can reflect social needs of different times.
- B. The functions of business schools deserve more attention from the government.
- C. Imagination is a vital factor in higher education and the development of human society.
- D. Students need to choose a school which is full of intellectual adventure.

II. Answer the following questions according to what you have learned from the text.

1. What are the functions of universities?
2. Why is imagination of great importance in the consideration of learning?
3. What were business relations much simpler in the past? And why do you know about modern business organization?
4. Why does the author mention the development of the European races?
5. Do you agree with the author that a university should be imaginative? Why or why not? Support your opinions with details or examples.

Language Enhancement

I. Complete the following sentences with words or phrases from the text. Change the form if necessary.

1. Many universities are making efforts to enroll more students while _____ standards. (Para. 2)
2. The more specific the signal is, the more information it can _____. (Para. 2)
3. By patient questioning, the police managed to _____ the truth from the witnesses. (Para. 3)
4. The improvements are due to _____ to his technological innovation. (Para. 4)
5. _____ customer satisfaction, the sales policy cannot be criticized. (Para. 5)
6. He _____ his speech with a welcome to the guests. (Para. 6)
7. These old songs often _____ the memories of the past. (Para. 7)
8. He _____ some comfort from the fact that he wasn't the only one who failed the job interview. (Para. 7)
9. Her progress in the workplace is _____ by the heavy burden of her family. (Para. 10)
10. The contract has been _____ for another 10 years. (Para. 10)





II. Replace the italicized parts in the following sentences with words or phrases from the text.

1. The management argued that they could see no *reason* for a pay rise, so they refused the workers' requirement. (Para. 2)
2. The governor has *been endowed with* full authority to act by the central government. (Para. 2)
3. Some of his ideas *are* completely *separated from* reality. (Para. 3)
4. His *weak* attempt to win the contract surely resulted in being beaten by his competitor. (Para. 4)
5. Scientists first *came up with* the idea of the atomic bomb in the 1930s. (Para. 5)
6. Bitter *face-to-face conflict* with your boss will affect your work effectiveness. (Para. 7)
7. He has got a really unique *understanding* of love and marriage. (Para. 7)
8. The instructions in the manual, full of technical terms, are *difficult to understand* for common users. (Para. 9)
9. Despite our best *efforts*, we couldn't get the computer started. (Para. 10)
10. The business trip to the mountainous area is really a *hard and boring task* for her, who gets used to modern facilities in big cities. (Para. 11)

III. Paraphrase the italicized parts in the following sentences.

1. It works by eliciting the general principles which apply to the facts, as they exist, and then by an intellectual survey of *alternative possibilities which are consistent with* those principles. (Para. 3)
2. It is a *libel upon human nature* to conceive that zest for life is the product of pedestrian purposes directed toward the narrow routine of material comforts. (Para. 5)
3. It requires an imaginative grasp of *the interlocking interests* of great organisation, and of the reactions of the whole complex to any change in one of its elements. (Para. 7)
4. In any large organization the younger men, who are novices, must be set to jobs which consist in carrying out fixed duties *in obedience to orders*. (Para. 10)
5. There can be no criticism of the custom, but there may be an unfortunate effect—*prolonged routine work dulls the imagination*. (Para. 10)

IV. Translate the following paragraphs into Chinese.

1. Youth is imaginative, and if the imagination be strengthened by discipline this energy of imagination can in great measure be preserved through life. The tragedy of the world is that those who are imaginative have but slight experience, and those who are experienced have feeble imaginations. Fools act on imagination without knowledge; pedants act on knowledge without imagination. The task of a university is to weld together imagination and experience. (Para. 4)